

ON THE HABITAT, ETC., OF CERTAIN SPECIES OF *CLAUSILIA*
FROM THE COAST OF SYRIA.

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A RECENT visit to the Syrian coast enabled me to continue certain observations on the habitat, etc., of *Clausilia*, which I began in Dalmatia and Bosnia last April. I had the opportunity of observing *Clausilia* along about 60 miles of the Syrian coast, from a point about 10 miles north of Beirût, as far south as Tyre. In the neighbourhood of the coast itself the land is fairly flat and unpromising, but in many places the foothills of the Lebanon abut on the sea, and here *Clausilia* abounds, the rock being limestone.

The best place for observation is the Nahr el Kelb, or Dog River, about 7 miles north of Beirût, where a small river runs into the sea between precipitous limestone cliffs. At my first visit I could almost believe myself back at the beautiful outlet of the Cetina at Almissa. Not only was the scenery strikingly similar, but on the limestone slabs at the foot of the cliffs the bluey-white shells of *Cl. Boissieri*, Charp., conspicuous and abundant, corresponded exactly to those of *Almissana*, Küst. The species was not, it is true, so remarkably confined to the moist slabs as was *Almissana*, being found on the bare cliff face as well, but wherever there was a trickle of water from above there was plenty of *Boissieri* feeding on the microscopic algæ. It is a singularly shade-loving species, and appears to occur only on the southern or shady bank of the river, never in closely associated groups, although so numerous, but dotted singly over the cliff face.

Associated with *Boissieri*, but much fewer in number, was *Cl. strangulata*, Fér. This is a species which, exactly like *albocincta*, Pfr., of Prenj, loves to feed on the surface of clay, and wherever a clay band occurs in the limestone of the Nahr el Kelb it is certain to be found, its beautifully laced shell often daubed and disfigured by the mud. Green food is near it, but its tastes apparently do not lie in that direction.

On looking over my specimens of these two species a few shells occur which I am quite unable to assign definitely to one species or the other, and yet I am sure they do not belong to a third. Considering how numerous in individuals both species are, innocent errors must occasionally occur, and it seems probable that in these apparent hybrids we have the descendants of these mixed marriages.

Living close by *Boissieri* and *strangulata* at the Nahr el Kelb, and with *strangulata* alone at the lighthouse at Beirût, is a third species, *mæsta*, Fér., whose habits are so singular that I would almost wager that ten collectors out of twenty would fail to discover it at all. It may be described as almost an underground species. The discovery of one or two worn specimens at the foot of the same cliff on the face of which *Boissieri* and *strangulata* were abundant and conspicuous led

me to search more closely, and I found that *mæsta* lives under heaps of stones, not attempting to climb a single inch up the cliff, but preferring to hide itself, sometimes as much as a foot deep, beneath piles of débris. Here it feeds on decaying vegetation, and I came across dozens of living individuals simply by clearing away the heaps of stones.

Quite by chance another fine species, *Medlycottii*, Trist., was lighted on. Driving from Sidon to Beirût, we stopped at a wayside inn for refreshment. The place looked most unpromising—ploughed fields in every direction. At the last moment I saw some rocks sticking up two or three fields off, and on the shady side of these, feeding singly on the moss and greenish slime on the surface of the limestone, *Cl. Medlycottii* occurred in some abundance. Tristram's original locality was further south, the hills behind Sarepta. But some miles nearer Sidon, in the bay where, as local tradition relates, the whale vomited up Jonah, a most beautiful and well-marked variety occurred, very slender, with a much produced spire, and narrow and more flattened lamellæ. This form was found feeding on a large black, moist lichen, which grew in the hollows of shady rocks, and I never found it anywhere else. If, as seems probable, the variety is new, I should like to associate it with the name of the prophet, and call it *Cl. Medlycottii*, Trist., var. *Jonasi*.

Beirût is a large town of about 120,000 inhabitants, and it fairly surprised me to find a *Clausilia* tolerably abundant on street walls in the centre of Beirût. This species is variously named in Dr. Norman's collection, now in the British Museum, as *Delesserti*, Bgt., *brunnea*, Zgl., *vesicalis*, Friv., and *fauciata*, Parr. It lodges in the interstices of stone walls which face north and west, feeding on moss, and I found it fairly plentiful in exactly similar situations at Sidon, but no trace of it on the rocks in the open.

I will only conclude by saying that I feel confident that close observation of the habits and mode of life of many land shells, in relation to their food and choice of habitat, will be found productive of interesting and possibly valuable results.
